Distortionless Signal Amplification via Interwave Photon Migration for Range Enhancement of Arrayed Nanotransmitters

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Simon Edwards
Research Acceleration Initiative

Introduction

Novel high-bandwidth wireless transmission systems rely upon nanoscopic transmitter structures each of which carry a portion of the overall data load. Signals on increasingly large numbers of offset frequencies must be received and processed in order for data to be successfully transmitted on so-called 5G networks which are able to provide greater bandwidth than 4G networks at the expense of such severe range limitations so as to cause many to question the economic viability of offering the 5G service.

As individual transmission components continue to shrink in size, the transmitting amplitude of those signals is necessarily weakened. This is the primary reason for the 5G range limitation. It interesting to note that the frequencies at which 5G operates are approaching the point at which the EM being transmitted might be described as "light" rather than as "radio."

Abstract

In the publication of 17 December 2023 (ibid.,) it was explained that a magnetometer could be created which operates on the basis of propelling individual photons devoid of spin through a vacuum in order to measure the effects of ambient EM upon that photon which, given that it would be devoid of spin, would have no discrete magnetism as an ordinary photon would.

This being the case, it stands to reason that the manufacture of large numbers of spinless photons (or, alternatively, evenly matched numbers of opposing, low-spin photons could, if coaxed into joining with photons being transmitted (as in a nano-scale 5G radio transmitter) could be used to amplify emitted waves to the desired extent without distorting those waves and without the need to use larger-scale transmitters or re-processing to achieve this end.

A zero-spin photon could, in the presence of far-infrared waves, for example, be expected to adopt the spin properties of the photons of the wave as it has no spin properties of its own. If streams of spinless photons joined with structured EM, the structured EM would be amplified without any distortion to its frequency.

Unfortunately, spinless photons can only be generated at the rate of about one "bonus" photon for each wave, meaning that a wave of structured EM could not be meaningfully amplified exclusively through the use of spinless photons.

Beyond this, there is the matter of enabling light to "catch up with" other light. This can be achieved by passing outbound, structured EM (that EM which is to be amplified) through a crystal which slows the light as much as possible. Rubies, for example, can dramatically slow light. The extent to which light is slowed in a ruby varies depending upon the frequency of the light passed through the mineral.

This being the case, if EM of a lower frequency, perhaps in the shortwave band, could be made to pass through ruby at essentially 100% of C, enabling it to repeatedly overrun far-infrared light such as that associated with 5G transmissions.

If the precise relationships of phase between two different waves of what may be termed the Supplementary Photon Source (SPS) could be controlled with respect to one another and these waves could, furthermore, be made to converge in proximity to the far-IR wave (i.e. the one to be amplified,) two waves of shortwave energy with opposing spin directions could be made to join with the far-IR wave at the midcourse of its phase. The opposition of spin of the two SPS waves would effectively weaken its magnetic moment and the fact that the far-IR is at midcourse would mean that its moment would be maximal.

Although the pair of SPS waves would have spin and therefore magnetic moment, if those spins were in perfect opposition and their positions were equidistant from the photons and overran those photons at the precise midcourse of their phase (this would be a high-precision enterprise, to say the least,) the magnetic moment of the far-IR would 'tip the scales' and would impose its own properties upon the pair of SPS waves (rather than the two waves each being modified so as to be hybridized quasi-equally with one another as waves typically do,) causing them to become part of the far-IR wave. Spin-opposition of two SPS waves catching up with a far-IR wave slowed by ruby would act as a clutch mechanism for photons. What a clutch mechanism does for an automotive transmission system, this does for interacting waves of light. It enables the individuals photons to "change gears" and effortlessly leap out of one wave and stream into an entirely different wave.

Each time a properly calibrated set of shortwave energy waves catches up with the far-IR wave in this scheme, the amplitude of the far-IR wave would be amplified by perhaps 3% with each interaction. Multiple shortwave carriers could be simultaneously broadcast to provide dozens or hundreds of opportunities for IPM events which would have the effect of strengthening comparatively weak far-IR signals from 5G arrayed transmitter nodes to the desired extent.

Conclusion

All of the necessary ingredients for such a mechanism already exist, particularly given that minerals such as rubies can be synthesized and other synthetic minerals may prove even more effective in slowing light. This is an example of a

true practical application for the slowing of light as it establishes that photons can, under the right circumstances, be traded between waves of vastly different energy states, enabling increasing degrees of amplification the more times EM moving at light speed can catch up with the impeded light.